**Velammal College of Engineering and Technology, Madurai**

**An Autonomous Institution**

**Department of Computer Science and Engineering**

**21CS205 Object oriented programming lab**

**Exercise No 7**

String Handling

Team 1

Write an application that prompts the user for a password that contains at least two uppercase letters, at least two lowercase letters, and at least two digits. Continuously reprompt the user until a valid password is entered. After each entry, display a message indicating whether the user was successful or the reason the user was not successful. Save the file as ValidatePassword.java.

Team 2

1. Write an application that counts the words in a String entered by a user. Words are separated by any combination of spaces, periods, commas, semicolons, question marks, exclamation points, or dashes.
2. Write a Java program to find the second most frequent character in a given string.

Sample Output

The given string is: successes

The second most frequent char in the string is: c

Team 3

Three-letter acronyms are common in the business world. For example, in Java you use the IDE (Integrated Development Environment) in the JDK (Java Development Kit) to write programs used by the JVM (Java Virtual Machine) that you might send over a LAN (local area network). Programmers even use the acronym TLA to stand for three-letter acronym. Write a program that allows a user to enter three words, and display the appropriate three-letter acronym in all uppercase letters. If the user enters more than three words, ignore the extra words. Save the file as ThreeLetterAcronym.java.

Team 4

Write an application that accepts a word from a user and converts it to Pig Latin. If a word starts with a consonant, the Pig Latin version removes all consonants from the beginning of the word and places them at the end, followed by ay. For example, cricket becomes icketcray. If a word starts with a vowel, the Pig Latin version is the original word with ay added to the end. For example, apple becomes appleay. If y is the first letter in a word, it is treated as a consonant; otherwise, it is treated as a vowel. For example, young becomes oungyay, but system becomes ystemsay. For this program, assume that the user will enter only a single word consisting of all lowercase letters. Save the file as PigLatin.java.

Team 5

Write a program that inserts parentheses, a space, and a dash into a string of 10 user-entered numbers to format it as a phone number. For example, 5153458912 becomes (515) 345-8912. If the user does not enter exactly 10 digits, display an error message. Continue to accept user input until the user enters 999. Save the file as PhoneNumberFormat.java.

Team 6

Write an application that prompts a user for a full name and street address and constructs an ID from the user’s initials and numeric part of the address. For example, the user William Henry Harrison who lives at 34 Elm would have an ID of WHH34, whereas user Addison Mitchell who lives at 1778 Monroe would have an ID of AM1778. Save the file as ConstructID.java

Team 7

1. Write a program called **CaesarCode** to cipher the Caesar's code. The program shall prompt user for a plaintext string consisting of mix-case letters only; compute the ciphertext; and print the ciphertext in uppercase. For example,

Enter a plaintext string: **Testing**

The ciphertext string is: WHVWLQJ

Caesar's Code is one of the simplest encryption techniques. Each letter in the plaintext is replaced by a letter some fixed number of position (n) down the alphabet cyclically. For ex. consider n=3. That is, 'A' is replaced by 'D', 'B' by 'E', 'C' by 'F', ..., 'X' by 'A', ..., 'Z' by 'C'.

1. Write a java program that reads a string from inputs containing first name, last name and computes an e-mail address with first 3 letters of the first name, first 4 letters of last name, ‘.’ separator and domain. Display the outputs by invoking objects.

Team 8

1. Write a program called **Bin2Dec** to convert an input binary string into its equivalent decimal number.

Sample Output

Enter a Binary string: **1011**

The equivalent decimal number for binary "1011" is: 11

Enter a Binary string: **1234**

error: invalid binary string "1234"

1. Write a Java program to divide a string in n equal parts.

Sample output

The given string is: abcdefghijklmnopqrstuvwxy

The string divided into 5 parts and they are: abcde fghij klmno pqrst uvwxy